

REMARKS

Abstract

In the non-final Office Action mailed 03/20/2008, the Examiner objected to the language of the Abstract. The Abstract has been amended to address the objection.

Claims 1-5 and 9

Claims 1, 3, 4 and 9 stand rejected under 35 USC § 102 as being allegedly anticipated by Alles et al. (US 6,525,918). Claims 2-4 and 5 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Alles et al. in view of Ishiko et al. (US 4,999,571) and/or Zur et al. (US 6,590,396). The Applicant respectfully requests reconsideration and withdrawal of these rejections in light of the following.

The Office Action alleges that Alles et al., at Figure 5, discloses “a current sensor located proximate to the bundle for producing a signal representative of a current in the bundle”, as recited in claims 1 and 9. Figure 5 of Alles et al. shows an adaptive fusing apparatus (16) which “transfers current 21 to a first parallel path 70 having a first load 72 and a second parallel path 74 having a second load 76.” (See column 5, lines 38-40). It is noted that Figure 5 of Alles et al. shows only a single wire in which the current sensor (26) of the adaptive fusing apparatus (16) monitors the current (21). The first and second parallel paths (70, 74) of Figure 5 branch off from the single wire at a location outside of the adaptive fusing apparatus (16). Thus, Figure 5 of Alles et al. fails to disclose “a current sensor located proximate to the bundle for producing a signal representative of a current in the bundle”, as recited in claims 1 and 9.

Alles et al. in fact teaches away from “a current sensor located proximate to the bundle for producing a signal representative of a current in the bundle”, as recited in claims 1 and 9. Figure 6 of Alles et al. shows a dual adaptive fusing apparatus (80) which comprises two current level sensors (84) for monitoring the current in two separate wires. This is inconsistent with “a current sensor located proximate to the bundle for producing a signal representative of a current in the bundle.” Accordingly, the Applicant respectfully submits that Alles et al. fails to anticipate claims 1 and 9 for at least this reason.

Ishiko et al. and Zur et al. fail to remedy the above-noted deficiencies in the teachings of Alles et al. with respect to claims 1 and 9. In particular, neither Ishiko et al. nor Zur et al. disclose “a current sensor located proximate to the bundle for producing a signal representative of a current in the bundle”, as recited in claims 1 and 9.

Accordingly, the Applicant respectfully submits that claims 1 and 9, as well as claims 2-5 which depend from claim 1, are patentable over Alles et al., Ishiko et al. and Zur et al.

Claims 6-8

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Alles et al. in view of Hale et al (US 7,236,338). Claim 8 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Alles et al. in view of Hale et al. and Zur et al. The Applicant respectfully requests reconsideration and withdrawal of these rejections in light of the following.

As noted above with respect to claims 1 and 9, Alles et al. and Zur et al. fail to disclose “placing a current sensor proximate to the bundle for producing a signal representative of a current in the bundle”, as recited in claim 6. Hale et al. fails to remedy this deficiency.

Hale et al. discloses a supplemental protection module (16) which monitors the current output from a programmable controller (10) to a plurality of loads (14). The supplemental protection module (16) includes an arc fault detector (16a) which includes an arc fault detection module (20) which receives the output current (IANA) from the programmable controller. (See column 7, lines 35-38, which states “the arc fault detection module 20 can include a front-end high pass filter/gain stage 22 that feeds the output current (IANA) from the programmable controller 10 to a switchable band-pass filter 24.”) However, Hale et al. fails to disclose “placing a current sensor proximate to the bundle for producing a signal representative of a current in the bundle”, as recited in claim 6. In contrast, the quoted passage from Hale et al. suggests that the arc fault detection module (20) receives the output current from the programmable controller (10) directly, rather than from a current sensor placed proximate to a bundle of wires.

Accordingly, the Applicant respectfully submits that claim 6, as well as claims 7-8 which depend from claim 6, are patentable over Alles et al., Hale et al. and Zur et al.

Claims 10-12

New claims 10-12, which are supported by the specification as originally filed, are presented herewith. No new matter has been added.

New claim 10 depends from claim 1, and is submitted to be patentable for at least the reasons set out above with respect to claim 1. Likewise, new claims 11 and 12 depend respectively from claims 9 and 6, and are submitted to be patentable for at least the reasons set out above with respect to those claims.

New claims 10-12 also recite further features which distinguish these claims over the prior art. For example, new claims 10 and 11 recite that “the signal processor monitors the signal from the current sensor for a reflection of the arc from one of the plurality of loads and produces the indication of the location at which the arc occurred using time domain reflectometry based on detection of the arc and the reflection of the arc”. Similarly, new claim 12 recites “upon detection of an arc pattern in the signal from the current sensor, monitoring the time-rate-of-change of the signal from the current sensor for a reflection of the arc from one of the plurality of loads, wherein time domain reflectometry is applied to determine the location of the arc based on the detected arc pattern and the reflection of the arc.”

It is noted that Hale et al. discloses a time domain reflectometry (TDR) module (42) which transmits “a series of test pulses down the conductors connecting the programmable controller 10 and the loads 14”, and receives reflections of the test pulses. (See column 10, lines 1-6.) However, Hale et al. fails to disclose monitoring a signal from a current sensor proximate to a bundle of wires for a reflection of an arc.

Accordingly, the Applicant respectfully submits that new claims 10-12 further distinguish the cited references for at least this reason.

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Conclusion

In view of the foregoing, the Applicant respectfully submits that this application is now in condition for allowance and requests reconsideration and allowance of this application.

Respectfully submitted,

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